

AMENDMENTS TO THE CLAIMS

1 - 6. (Canceled)

7 (Currently amended). A stepped impedance structured resonator comprising: a laminate having superposed set of first, second and third layers; the second layer which is disposed between the first and third layers being a dielectric; each of the first and third layers being conductive layers having spaced first and second non-conductive areas with a first conductive area therebetween; at least a portion of the first non-conductive areas of the first and third layers overlapping in the lamination direction and at least a portion of the second non-conductive areas of the first and third layers overlapping in a lamination direction to thereby form inductive areas; and at least a portion of the first conductive areas of the first and third layers overlapping in the lamination direction to thereby form a capacitive area; ~~wherein a greatest straight line dimension of the overlapping non-conductive areas of the first and third layers perpendicular to the lamination direction is different than the distance between the overlapping non-conductive areas perpendicular to the lamination direction.~~

8 (Previously presented). The stepped impedance structured resonator of claim 7, wherein the laminate contains additional layers disposed to form at least one additional superposed set of said first, second and third layers.

9 (Previously presented). The stepped impedance structured resonator of claim 8, wherein one of the layers is a conductive layer in two of the sets in the laminate.

10 (Previously presented). The stepped impedance structured resonator of claim 9, wherein at least one of a dielectric constant and a thickness of the second layer in two of the sets are different.

11 (Previously presented). The stepped impedance structured resonator of claim 10, wherein a thickness of the second layer in the set disposed at an outermost side in the lamination direction is greater than the thickness of the second layer of another set.

12 (Previously presented). The stepped impedance structured resonator of claim 10, wherein a thickness of the second layer in the sets disposed at both outermost sides of the laminate in the lamination direction is greater than the thickness of the second layer of the other sets.

13 (Previously presented). The stepped impedance structured resonator of claim 10, wherein a thickness of the second layer in the sets becomes progressively greater from the central-most set toward an outermost side of the laminate in the lamination direction.

14 (Previously presented). The stepped impedance structured resonator of claim 7, wherein each of the first and third layers have a third non-conductive area which is spaced from the first non-conductive area with a second conductive area therebetween; at least a portion of the third non-conductive areas of the first and third layers overlapping in the lamination direction, and at least a portion of the second conductive areas of the first and third layers overlapping in the lamination direction.

15 (Previously presented). The stepped impedance structured resonator of claim 7, wherein the overlapping non-conductive areas are circular.

16 (Previously presented). The stepped impedance structured resonator of claim 15, wherein the shape of the first overlapping non-conductive areas of the first and third layers perpendicular to lamination direction are different.

17 (Canceled)

18 (Previously presented). The stepped impedance structured resonator of claim 7, wherein a surface of the third layer is disposed on a surface of a dielectric substrate.

19 (Previously presented). The stepped impedance structured resonator of claim 18, wherein a shielding electrode is disposed on at least one outermost surface of the dielectric substrate on which the third layer is disposed.

20 (Previously presented). The stepped impedance structured resonator of claim 19, wherein the first layer is covered by conductive cap.

21 (Previously presented). A filter comprising a stepped impedance structured resonator of claim 10 having signal input/output means coupled thereto.

22 (Previously presented). A communication apparatus comprising a filter of claim 21 coupled to an antenna.

23 (Previously presented). A communication apparatus comprising a stepped impedance structured resonator of claim 10 coupled to an antenna.

24 (Previously presented). A filter comprising a stepped impedance structured resonator of claim 7 having signal input/output means coupled thereto.

25 (Previously presented). A communication apparatus comprising a filter of claim 24 coupled to an antenna.

26 (Previously presented). A communication apparatus comprising a stepped impedance structured resonator of claim 7 coupled to an antenna.